

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

Please replace the paragraph appearing on page 3, lines 14-20, with the following paragraph:

Various operations can be applied to the graphical objects, such as the add, max, and divide operations described in U.S. patent application Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, entitled "Multiple Pass Layout of Graphical Objects with Elastics." However with some graphical objects, such as grids and tables, the Elastic add, max, and divide operations are not enough. There is also a need for an Elastic "difference" or subtract operation, which is applied in situations in which a size preference must be subtracted from other size preferences.

Please replace the paragraphs appearing on page 5, lines 7-21, with the following paragraphs:

FIG. 4 is a fiducial graph for the horizontal dimension of the grid of FIG. 3 according to one embodiment.[[.]]

FIG. 5 is a fiducial graph for the vertical dimension of the grid of FIG. 3 according to one embodiment.[[.]]

FIG. 6A is a basic series-parallel graph referred to as a leaf graph according to one embodiment.

FIG. 6B is a parallel composition of two series-parallel graphs according to one embodiment.[[.]]

FIG. 6C is a series composition of two series-parallel graphs according to one embodiment.[[.]]

FIG. 7 is a series-parallel composition tree for the fiducial graph of FIG. 4 according to one embodiment.

FIG. 8 is a simple grid topology that yields non-series-parallel fiducial graphs.

FIG. 9 is the non-series-parallel fiducial graph corresponding to the horizontal dimension of the grid of FIG. 8 according to one embodiment.[[.]]

Please replace the paragraph appearing on page 8, lines 9-15, with the following paragraph:

It is desirable to provide the capability to produce tabular displays such as those illustrated in FIGS. 1 and 2 when using a layout system based on elastics. U.S. patent application Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, entitled "Multiple Pass Layout of Graphical Objects with Elastics" filed Jul. 30, 1999, by Halstead et. al., is an example of a preferred layout system based on elastics, the entire teachings of which are incorporated herein by reference. In such a system, the preferred sizes and elasticities of each table element are described using Elastic objects. Based on this information, the layout system must:

Please replace the paragraphs appearing on page 16, line 23, through page 17, line 13, with the following paragraphs:

- * the size preference associated with a Parallel Composition constraint is computed by applying the Elastic max operation to the size preferences associated with the constraints directly contained within the Parallel Composition constraint. For a description of the Elastic max operation, see U.S. patent application Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, entitled "Multiple Pass Layout of Graphical Objects with Elastics."
- * the size preference associated with a Series Composition constraint is computed by applying the Elastic add operation to the size preferences associated with the constraints directly contained within the Series Composition constraint. For a description of the Elastic add operation, see U.S. patent application Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, entitled "Multiple Pass Layout of Graphical Objects with Elastics." As a by-product, this computation sets the elements of an "upto-elastics" array associated with the Series Composition constraint. upto-elastics[i] (the i'th element of the array) is set equal to the Elastic sum of the size preferences for the first i+1 of the constraints directly contained within the Series Composition constraint.

Please replace the paragraph appearing on page 19, lines 9-13, with the following paragraph:

Let new-len be divide(upto, e, len); in other words, apply the Elastic divide operation to upto, e, and len. For a description of the Elastic divide operation, see U.S. patent application Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, entitled "Multiple Pass Layout of Graphical Objects with Elastics."

Please replace the paragraph appearing on page 40, lines 19-24, with the following paragraph:

The initial call to this method comes from step (3) of Algorithm 8. In this call, f is the head fiducial of the partially reduced fiducial graph. For example, in graph 1500 of FIG. 12, the value of f in this initial call would be fiducial 1548. The value of prev in this initial call is null and e is a highly rigid Elastic of size zero, representing the size preference along the (null) path from the head fiducial 1548 to itself. Finally, the value of back-links in this initial call will be an empty set.

Please replace the paragraph appearing on page 71, line 21, through page 72, line 2, with the following paragraph:

If the origin point of a given element is not connected to a fiducial along a grid dimension of interest, then the Leaf constraint corresponding to that element has an associated Elastic that is the total Elastic of the element along that dimension. This total Elastic will be the Elastic sum of the first and last components of the element's OriginElastic along that dimension. For a description of OriginElastic, see U.S. Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, entitled "Multiple Pass Layout of Graphical Objects With Elastics," and additionally, see U.S. Ser. No. 09/364,469, now U.S. Patent No. 6,380,940, filed Jul. 30, 1999, entitled "Processing of Graphical Objects Having Origins Defined With Elasticity," by Robert H. Halstead, Jr. and David E. Hollingsworth, the entire teachings of which are incorporated herein by reference.

Please replace the paragraph appearing on page 77, lines 7-21, with the following paragraph:

Step (8) of Algorithm 13 addresses this problem by adjusting the components of the OriginElastic value from step (7) so that the Elastic sum of the two components equals the Elastic value representing the overall size preference from the head node to the tail node of the partially reduced fiducial graph. In the previously described example involving graph 1800, the components of the OriginElastic value will thus be adjusted so that their Elastic sum equals the Elastic value representing the size preference of constraint 1814. The adjustment is performed by computing two Elastic values that sum to the desired overall Elastic value, while at the same time preserving, to the extent possible, the preferred sizes and elasticities of the component Elastic values relative to each other. A method for performing this adjustment is described in U.S. Ser. No. 09/625,651, now abandoned, filed Jul. 26, 2000, entitled "Overriding Elastic Values For Graphical Objects," by Robert H. Halstead, Jr., which is a continuation-in-part of U.S. Ser. No. 09/364,470, now U.S. Patent No. 6,667,750, filed Jul. 30, 1999, entitled "Multiple Pass Layout of Graphical Objects With Elastics," by Robert H. Halstead, Jr. and David E. Hollingsworth, the entire contents of which are incorporated herein by reference.